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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/749,727

**Applicant(s)**

PATHAN ET AL.

**Examiner**

INDER P. MEHRA

**Art Unit**

2617

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-34 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 1/22/2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This office action is in response to application dated: 1/22/2009. Based on this application, claims 1-34 are pending. Claims 1, 20-21 and 31-34 are amended to include new limitations.
2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

### *Information Disclosure Statement*

3. The information disclosure statement (IDS) submitted on 1/22/2009 was filed . The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2, 4-5, 9-12, 20-21 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer et al** (US Patent No. 6,791,959), hereinafter, Palmer in view of **Jeyaseelan et al** (US Pub. No. 2005/0070275), hereinafter, Jeyaseelan.

**Note: For claim 32, Computer readable medium is any data storage device that can store data which can be read by computer system, refer to specification page 16 lines 4-6. Computer Readable Instructions are for network operations and mechanism for roaming and routing functions , as explained in specifications, page**

**19 lines 9-10. This paragraph has been relied upon in interpretation of limitations claimed in claim 32.**

For claims 1, 32-34, **Palmer teaches, a method of triggering roaming in a network device (Palmer teaches a method of adopting (triggering) roaming in a network , col. 6 lines 1-11), comprising:**

**detecting a speed of the network device (Palmer teaches evaluation of future measurements based on motion, and further, teaches proactive approach for roaming which is adopted when swift motion (speed) is detected, col. 6 lines 1-10 and ;**

**ascertaining one or more trigger values corresponding to one or more trigger events at the detected speed of the network device (Palmer estimates and determines the values associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57. Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle”(Note: same as when swift motion is detected), col. 6 lines 1-11.);**

**wherein the one or more trigger values corresponding to the one or more trigger events are threshold values (quality, measurement of data, S/N ratio, congestion are events or load factors. These are utilized in conjunction with configurable parameters , such as threshold values, refer to col. 5 lines 45-67) associated with the detected speed of the network device, wherein the one or more trigger values have been configured at the network device; (Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle”, col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected , there will be no waiting or delay to start**

roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at a particular incidence` is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67);

a processor and a memory (see claim 34); (Palmer discloses, wireless communication device 20 having a processor and a memory to execute stored program to carryout the method steps, col. 5 lines 34-38

**Palmer does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:**

maintaining one or more trigger counters associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger event); and

triggering roaming when one of the trigger counters associated with one of the trigger events is equal to or exceeds one of the trigger values corresponding to the one of the trigger events at the speed of the network device (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold (corresponding value is exceeded) and counter value set at 10 seconds is reached or exceeded, such as (2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of maintaining one or more trigger counters associated with the one or more trigger events as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile

wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 20, **Palmer** teaches, a method of triggering roaming in a network device  
**(Palmer teaches a method of adopting (triggering) roaming in a mobile device in a network**  
**, col. 6 lines 1-11), comprising:**

detecting a speed of the network device **(Palmer teaches evaluation and extrapolation**  
**of future measurements based on motion, and further, teaches proactive approach for**  
**roaming which is adopted when swift motion (speed) is detected, col. 6 lines 1-10 and ;**

ascertaining one or more trigger values corresponding to one or more trigger events  
at detected speed of the network device **(Palmer estimates and determines the values**  
**associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57.**  
**Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful**  
**transmission) when worker is moving swiftly on motorized vehicle”(Note: same as when**  
**swift motion is detected), col. 6 lines 1-11.);**

wherein the one or more trigger values corresponding to the one or more trigger events  
are threshold values (quality, measurement of data, S/N ratio, congestion are events or load  
factors. These are utilized in conjunction with configurable parameters , such as threshold  
values, refer to col. 5 lines 45-67) associated with the detected speed of the network device,  
wherein the one or more trigger values have been configured at the network device; **(Palmer,**  
**further, , discloses “roaming is critical (rather than wait for unsuccessful transmission)**

**when worker is moving swiftly on motorized vehicle", col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected , there will be no waiting or delay to start roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at a particular incidence' is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67);**

**Palmer does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:**

**maintaining one or more trigger counters associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger event); and**

**triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold and counter value set at particular value, such as, (10 seconds , 2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027) is reached.**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of maintaining one or more trigger counters associated with the one or more trigger events; and triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device as taught by Jeyaseelan. This



could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 21, **Palmer teaches, a method of triggering roaming in a network device (Palmer teaches a method of adopting (triggering) roaming in a network , col. 6 lines 1-11), comprising:**

**detecting a speed of the network device (Palmer teaches evaluation and extrapolation of future measurements based on motion, and further, teaches proactive approach for roaming which is adopted when swift motion (speed) is detected, col. 6 lines 1-10 and ;**

**--- one or more trigger values corresponding to one or more trigger events at the detected speed of the network device (Palmer estimates and determines the values associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57. Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle”(Note: same as when swift motion is detected), col. 6 lines 1-11.);**

**wherein the one or more trigger values corresponding to the one or more trigger events are threshold values (quality, measurement of data, S/N ratio, congestion are events or load factors. These are utilized in conjunction with configurable parameters , such as threshold values, refer to col. 5 lines 45-67) associated with the detected speed of the network device, (Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful**

transmission) when worker is moving swiftly on motorized vehicle", col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected , there will be no waiting or delay to start roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at a particular incidence' is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67);

**Palmer does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:**

modifying one or more trigger values, (Jeyaseelan teaches roaming timer may be set on any value based on criteria (modifying values), paragraph 0013).

maintaining one or more trigger counters associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer, paragraph 0020) at the expiry of which roaming starts (trigger event); and

triggering roaming when one of the trigger counters associated with one of the trigger events is equal to or exceeds one of the trigger values corresponding to the one of the trigger events at the speed of the network device (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold (value is reached to roam) and counter value set at 10 seconds is reached or exceeded, such as (2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of maintaining one or more trigger counters associated with the

one or more trigger events; and trigger events is equal to or exceeds one of the trigger values corresponding to the one of the trigger events at the speed of the network device as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 31, **Palmer teaches, a method of triggering roaming in a network device (Palmer teaches a method of adopting (triggering) roaming in a network , col. 6 lines 1-11), comprising:**

**detecting a speed of the network device (Palmer teaches evaluation and extrapolation of future measurements based on motion, and further, teaches proactive approach for roaming which is adopted when swift motion (speed) is detected, col. 6 lines 1-10 and ;**

**--- one or more trigger values corresponding to one or more trigger events at the speed of the network device (Palmer estimates as well as determines the values associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57; Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle”(Note: same as when swift motion is detected), col. 6 lines 1-11.);**

wherein the one or more trigger values corresponding to the one or more trigger events are threshold values (quality, measurement of data, S/N ratio, congestion are events or load factors. These are utilized in conjunction with configurable parameters , such as threshold

values, refer to col. 5 lines 45-67) associated with the detected speed of the network device;  
(Palmer, further, , discloses “roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle”, col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected , there will be no waiting or delay to start roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at a particular incidence’ is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67);

**Palmer does not teach the following limitation, which is disclosed by Jeyaseelan, as follows:**

modifying one or more trigger values, (Jeyaseelan teaches roaming timer may be set on any value based on criteria (values can be modified), paragraph 0013).

maintaining one or more trigger counters associated with the one or more trigger events (Jeyaseelan teaches timer 104 (counter performs as roaming timer, paragraph 0020) at the expiry of which roaming starts (trigger event); and

triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device (Jeyaseelan teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold and counter value set at particular value, such as, (10 seconds , 2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027) is reached.

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of maintaining one or more trigger counters associated with the one or more trigger events; and triggering roaming when one of the trigger counters associated with one of the trigger events is less than or equal to one of the trigger values corresponding to the one of the trigger events at the speed of the network device as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 2, **Palmer** in view of **Jeyaseelan teaches** all the limitations of subject matter , as applied to claim 1, as above. In addition, **Jeyaseelan teaches** the following limitations which are not disclosed by Palmer :

wherein the network device is a Mobile Node implemented in a 802.11 environment,  
**(Jeyaseelan teaches mobile device operates in compliance with 802.11 standards, refer to paragraph 0009).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of complying with 802.11 standards , as taught by Jeyaseelan. This capability could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 4, **Palmer** in view of **Jeyaseelan teaches** all the limitations of subject matter , as applied to claim 1, as above. In addition, **Jeyaseelan teaches** the following limitations which are not disclosed by Palmer :

wherein roaming is triggered when the network device has reached or is nearing a perimeter of a coverage area of an Access Point to which the network device has associated or a Foreign Agent via which the network device has registered with its Home Agent (**Jeyaseelan teaches roaming is triggered upon availability and re-association with a different access point, refer to paragraph 0011**).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of triggering roaming upon association with another access point, as taught by Jeyaseelan. The capability could be implemented in mobile device. The suggestion to use this capability in changing RSSI levels, refer to Palmer's fig. 3 and paragraph 0023; and, further, teaches association is defined by current parameter metrics, paragraph 0015 of **Jeyaseelan**. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 5, **Palmer** in view of **Jeyaseelan teaches** all the limitations of subject matter , as applied to claim 1, as above. In addition, **Palmer teaches** the following limitations which are not disclosed by Jeyaseelan :

wherein roaming is triggered when the network device is no longer within a coverage area of an Access Point to which the network device has associated or a Foreign Agent via which

the network device has registered with its Home Agent (**Palmer teaches roaming is triggered when roaming is based on connection quality measurement data or position information in current coverage area (cell), refer to abstract**). (Note: quality decreases when mobile is moving away from coverage area or no longer in coverage area).

For claim 6, **Palmer** in view of **Jeyaseelan** teach all the limitations of subject matter, as applied to claim 1, as above. In addition, **Palmer** teaches following limitation:

wherein ascertaining comprises: obtaining the one or more trigger values from a profile, wherein the profile includes a set of one or more trigger values at a plurality of speeds (**Palmer teaches, one or more trigger values (relative position is relative to access point, RPij) at plurality of speeds, roaming is triggered at certain values, col. 7 lines 40-55**).

For claim 9, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, In addition, **Palmer** teaches the following limitations:

wherein the trigger events include at least one of maximum data retry count is exceeded, maximum number of beacons missed is exceeded, data rate shift, and signal strength (**Palmer teaches trigger event (roaming) includes data rate shift and bit error rate, col. 5 lines 40-45**).

For claim 10, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, In addition, **Palmer** teaches the following limitations:

wherein the trigger values include at least one of maximum data retry count, maximum number of beacons missed, maximum data rate shift, and minimum signal strength, **(Palmer teaches trigger event (roaming) based on values (measured parameters) includes data rate shift, bit error rate, and RSSI (signal strength), col. 5 lines 40-57).**

For claim 11, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, In addition, **Palmer** teaches the following limitations:

wherein roaming is triggered when one of the trigger counters associated with the maximum data retry count is exceeded trigger event is equal to or exceeds the maximum data retry count trigger value, **(Palmer teaches trigger event (roaming) based on timers (counters) associated with data rate shift, bit error rate, and RSSI is equal to or exceeded, refer to figs. 3-4 flow charts and col. 5 lines 40-57).**

**Palmer does not teach counter associated with the maximum data ---is exceeded, which is taught by Jeyaseelan, as follows:**

**Jeyaseelan teaches roaming when retries are high (exceeded) and roaming timer (counter) is exceeded, paragraphs 0025-0027).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of counter associated with the maximum data ---is exceeded, as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to



allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 12, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1,

**Palmer does not teach the following limitation, which is taught by Jeyaseelan, as follows:**

wherein roaming is triggered when one of the trigger counters associated with the maximum number of beacons missed is exceeded trigger event is equal to or exceeds the maximum number of beacons missed trigger value (**Jeyaseelan teaches roaming when beacons are missed and roaming timer set count is exceeded, steps 305, 310, paragraphs 0024-0025).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein roaming is triggered when one of the trigger counters associated with the maximum number of beacons missed is exceeded trigger event is equal to or exceeds the maximum number of beacons missed trigger value, as taught by Jeyaseelan. This could be implemented by wireless communication device. Palmer suggested the methods to determine as to when the mobile wireless communication device should roam, refer to abstract col. 1 lines 12-16. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Naghian** (US Pub. No. 2004/0077350), hereinafter, **Naghian**.

For claim 3, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter, as applied to claim 1, as above, with the exception of the following limitations which are disclosed by **Naghian**:

wherein the network device is a Mobile Node supporting Mobile IP, (**Naghian teaches, Mobile IP describes the basic operations needed for a mobile node to maintain its connectivity, refer to paragraph 0002).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of the network device to have a Mobile Node supporting Mobile IP, as taught by **Naghian**. The capability could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to **Palmer's** col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of **Palmer**.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Yamashita** (US Pub. No. 2003/0064729), hereinafter, **Yamashita**.

For claim 8, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter, as applied to claims 1 and 6, as above, with the exception of the following limitations which are disclosed by **Yamashita**.

wherein the trigger values decrease as the speed of the network device increases, **(Yamashita teaches degradation of signal to noise ratio (trigger value for roaming) according to speed increase of mobile terminal (network device), refer to paragraph 0019).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein the trigger values decrease as the speed of the network device increases as taught by Yamashita. The capability could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Tsai et al** (US Pub. No. 2003/0064727), hereinafter, Tsai. .

For claim 7, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by **Tsai**.

wherein the rate at which the network device roams increases as the speed of the network device increases, **(Tsai teaches increase in handover rate with the increase in speed of mobile station, refer to paragraph 0008).**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein the rate at which the network device roams increases as the speed of the network device increases, as taught by Tsai. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in

changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Quensel et al** (US Pat. No. 6,473,614), hereinafter, Quensel.

For claim 14, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by **Quensel**.

wherein roaming is triggered when one of the trigger counters associated with the signal strength trigger event is less than the minimum signal strength trigger value, (**Quensel teaches handover is triggered to a new base station when counter associated with signal strength is less than the value associated with signal strength which is weak and, therefore, will cause trigger value for roaming , refer to col. 2 lines 35-50**).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein roaming is triggered when one of the trigger counters associated with the signal strength trigger event is less than the minimum signal strength trigger value, as taught by Quensel. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Smith et al** (US Pat. No. 6,721,572), hereinafter, Smith.

For claim 15, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by **Smith**.

wherein detecting a speed of the network device is performed using a GPS (**Smith teaches mobile communication device's speed can be determined by using GPS , refer to col. 3 lines 3-8**).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of detecting a speed of the network device is performed using a GPS, as taught by Smith. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

11. Claims 16-18 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Narayanan et al** (US Pub. No. 2004/0229612), hereinafter, '612.

For claims 16 and 28, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by '612.

registering with a Home Agent via a new Foreign Agent using a new Access Point when roaming is triggered, wherein the Mobile Node is within a coverage area of the new Foreign Agent and the new Access Point (**'612 teaches mobile node registering with Home Agent via Foreign Agent while within coverage area of Foreign Agent, refer to paragraph 0016).**

**Note: FA which is a router, communicates with HA via local B/S or Access Point.**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of registering with a Home Agent via a new Foreign Agent using a new Access Point when roaming is triggered, wherein the Mobile Node is within a coverage area of the new Foreign Agent and the new Access Point, as taught by '612. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claims 17 and 29, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter, as applied to claims 1 and 16 for claim 17; and claims 1 and 28 for claim 29 respectively, as above, with the exception of the following limitations which are disclosed by **'612.**

de-registering with the Home Agent via a new Foreign Agent using a new Access Point, wherein the Mobile Node is no longer within a coverage area of the previous Foreign Agent. (**'612 teaches mobile node registering with Home Agent via second Foreign Agent while moving away from first foreign agent to second foreign agent (no longer within a coverage**

area of the previous FA), refer to paragraph 0021 and step 216 in fig. 2. '612, further, teaches, home agent refreshes the state when mobile node moves to second FA, in order to de-register from first foreign agent, paragraph 0006)..

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of de-registering with the Home Agent via a new Foreign Agent using a new Access Point, wherein the Mobile Node is no longer within a coverage area of the previous Foreign Agent, as taught by '612. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claims 18 and 30, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter, as applied to claim 1, as above, with the exception of the following limitations which are disclosed by '612.

wherein the network device is a Mobile Node, and wherein when roaming is triggered, the Mobile Node is no longer within a coverage area of a Foreign Agent via which the mobile node has registered with its Home Agent, (**'612 teaches on handoff to second foreign agent, mobile node moves away from first foreign agent, where mobile node is registered with Home agent, to second foreign agent and communication link with first foreign agent is no longer operational, refer to paragraphs 0016-0018).**..

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein the network device is a Mobile Node, and wherein when roaming is triggered, the Mobile Node is no longer within a coverage area of a Foreign Agent via which the mobile node has registered with its Home Agent, as taught by '612. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Sturniolo et al** (US Pat. No. 6,201,962), hereinafter, '962.

For claim 19, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 1, as above, with the exception of the following limitations which are disclosed by '962.

wherein when roaming is triggered, the network device is no longer within a coverage area of an Access Point servicing the network device, (**'962 teaches , upon roaming outside coverage area of access point, the mobile terminal can no longer communicate that area through that particular access point, col. 1 lines 55-58**).

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein when roaming is triggered, the network device is no longer within a coverage area of an Access Point servicing the network device, as taught by '962.



The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan** and, further, in view of **Seo et al** (US Pat. No 7106783), hereinafter, **Seo**.

For claim 22, **Palmer** in view of **Jeyaseelan** teaches all the limitations of subject matter , as applied to claim 21, as above, with the exception of the following limitations which are disclosed by **Seo**.

multiplying the one or more trigger values by one or more multiplying factors, wherein each of the multiplying factors corresponds to the speed of the network device.

**(Seo teaches multiplying at high speed pilot symbols and control symbols by corresponding weight (factor) to make handoff (trigger value event), refer to col. 3 lines 18-21) .**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of multiplying the one or more trigger values by one or more multiplying factors, wherein each of the multiplying factors corresponds to the speed of the network device., as taught by Seo. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

14. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan and Seo** and further, in view of **Tiedemann, JR. et al** (US 2006/0094460), hereinafter, '460.

For claims 23-24, **Palmer** in view of **Jeyaseelan and Seo** teaches all the limitations of subject matter, as applied to claim 21, as above, with the exception of the following limitations which are disclosed by '460.

(As recited by claim 23), wherein each of the multiplying factors decreases the one or more trigger values when the speed of the network device increases.

(As recited by claim 24), wherein each of the multiplying factors increases the one or more trigger values when the speed of the network device decreases.

**('460 teaches change (either increase or decrease) in value with the change (either decrease or increase) in velocity (speed) of mobile station), refer to paragraph 0057) .**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein each of the multiplying factors decreases the one or more trigger values when the speed of the network device increases (see claim 23; and wherein each of the multiplying factors increases the one or more trigger values when the speed of the network device decreases (see claim 24), as taught by '460. The capabilities to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan and Seo** and further, in view of **Murai** (US 2005/0130662), hereinafter, Murai.

For claim 25, **Palmer** in view of **Jeyaseelan and Seo** teaches all the limitations of subject matter, as applied to claim 21, as above, with the exception of the following limitations which are disclosed by **Murai**.

ascertaining the multiplying factors corresponding to the speed of the network device.  
**(Murai teaches determining (ascertaining) factors corresponding to the mobile station speed), refer to paragraph 0036) .**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of ascertaining the multiplying factors corresponding to the speed of the network device, as taught by Murai. The capabilities to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

16. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Palmer** in view of **Jeyaseelan and Seo** and, further, in view of **Kalhan et al** (US Pub. No2004/0116133), hereinafter, Kalhan.

For claim 26, **Palmer** in view of **Jeyaseelan and Seo** teaches all the limitations of subject matter , as applied to claims 21 and 22, as above, with the exception of the following limitations which are disclosed by **Kalhan**.

wherein multiplying comprises: multiplying the one or more trigger values by a single multiplying factor, **(Kalhan teaches , multiplying power level sample 304, fig. 6 (indicator or trigger value, as to when to exit coverage area, refer to abstract and paragraph 0064) by adjustment factor and to send exit control signal, refer to paragraph 0066) .**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein multiplying comprises: multiplying the one or more trigger values by a single multiplying factor, as taught by Kalhan. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

For claim 27, **Palmer** in view of **Jeyaseelan and Seo** teaches all the limitations of subject matter , as applied to claims 21 and 22, as above, with the exception of the following limitations which are disclosed by **Kalhan**.

wherein multiplying comprises: multiplying each of the trigger values by a different multiplying factor, wherein the multiplying factor corresponds to the trigger event, **(Kalhan teaches , multiplying power level sample 304, fig. 6 (indicator or trigger value, as to when to**

**exit coverage area, refer to abstract and paragraph 0064) by adjustment factor and to send exit control signal (Trigger event), refer to paragraph 0066) .**

It would have been obvious to the person of ordinary skill in the art at the time of the invention to use the capability of wherein multiplying comprises: multiplying each of the trigger values by a different multiplying factor, wherein the multiplying factor corresponds to the trigger event r, as taught by Kalhan. The capability to request handover could be implemented in mobile device. The suggestion to use this capability in changing environment of different standards, refer to Palmer's col. 3 lines 2-4. The motivation for using this capability was to allow the people on the move during changing conditions, col. 1 lines 19-20 and col. 2 lines 30-35 of Palmer.

#### ***Allowable Subject Matter***

17. Claims 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

18. Applicant's arguments filed 1/22/2009 have been fully considered but they are not persuasive.

#### **Applicant's argument**

Each of the independent claims recites, "detecting a speed of the network device." The Examiner cites col. 6, lines 1-10 of Palmer. Palmer does disclose that roaming can be critical

when the "mobile worker" is "moving swiftly." However, this cited portion of Palmer neither discloses nor suggests detecting a specific speed of a network device.

It is also important to note that col. 6, lines 1-10 of Palmer clearly state that Palmer extrapolates future measurements. "This allows anticipation of the need to rate shift or roam rather than to wait for an unsuccessful transmission or comparison against a fixed predefined threshold." Thus, Palmer teaches away from comparing a current detected measurement against a predefined threshold.

**Examiner's response**

In response, examiner states, regarding detected speed of the network device, Palmer estimates and determines the values associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57. Palmer, further, discloses "roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle"(Note: same as when swift motion is detected ( not: this incidence is noticed or detected not extrapolated, as suggested by applicant,)), col. 6 lines 1-11. Furthermore, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004). See MPEP 2145 [R-6].

**Applicant's argument**

Applicant argues, "the Examiner cites col. 7, lines 40-57 of Palmer. Col. 7, lines 40-57 indicate that Palmer predicts future measurements, which is "even more critical when the wireless communication device 20 is rapidly transitioning from one call to the next or utilizing high speed. While the cited portion of Palmer discloses determining a relative position, the cited

portion fails to disclose or suggest detecting a speed of the device, or ascertaining or modifying threshold values that correspond to the detected speed. Accordingly, Applicant respectfully asserts that Palmer fails to disclose or suggest "ascertaining one or more trigger values corresponding to one or more trigger events at the detected speed of the network device, wherein the one or more trigger values corresponding to the one or more trigger events are threshold values associated with the detected speed of the network device, wherein the one or more trigger values have been configured at the network device" or "modifying one or more trigger values corresponding to one or more trigger events at the detected speed of the network device, wherein the one or more trigger values corresponding to the one or more trigger events are threshold values associated with the detected speed of the network device."

**Examiner's response**

In response, examiner states, the limitation, "modifying threshold values that correspond to the detected speed" was not claimed by applicant. Further, examiner states, quality, measurement of data, S/N ratio, congestion are events or load factors. These are utilized in conjunction with configurable parameters, such as threshold values, refer to col. 5 lines 45-67) associated with the detected speed of the network device, wherein the one or more trigger values have been configured at the network device; (Palmer, further, , discloses "roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle", col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected, there will be no waiting or delay to start roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at

a particular incidence` is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67.

**Applicant's argument**

Applicant argues, and asserts that Jayaseelan fails to cure the deficiencies of Palmer set forth above. Moreover, it appears that Jayaseelan merely discloses a timer. See paragraph [0020]. Specifically, Jayaseelan discloses a timer at the expiration of which roaming starts. While a timer may be considered a "counter," an additional "trigger value" or threshold value is not implemented in Jayaseelan. Clearly, roaming starts in Jayaseelan at the expiration of a timer, and this type of system would be incompatible with an entirely different method of triggering roaming (e.g., use of a threshold value). Roaming in Jayaseelan is not triggered based upon the comparison between the counter and a threshold value. As such, the combination of the cited references would fail to operate as claimed.

The Examiner further cites FIG. 3 and paragraph [0026]-[0027] of Jayaseelan. Jayaseelan discloses the use of a percentage of retries as a threshold. In addition, Jayaseela discloses determining whether an average signal strength (RSSI) is less than a threshold. While Jayaseelan does disclose the use of a threshold, the thresholds of Jayaseelan are clearly independent of the detected speed of the device. As such, Applicant respectfully asserts that Jayaseelan fails to disclose or suggest "triggering roaming when one of the trigger counters associated with one of the trigger events is equal to or exceeds one of the trigger values corresponding to the one of the trigger events at the detected speed of the network device." Moreover, Jayaseelan fails to cure the deficiencies of Palmer. As such, Applicant respectfully asserts that the combination of the cited references would fail to operate as claimed.



**Examiner's response**

In response, examiner states, Palmer in view of Jayaseelan teach threshold value based triggering roaming when one of the trigger counters associated with one of the trigger events is equal to or exceeds one of the trigger values corresponding to the one of the trigger events at the detected speed of the network device. Palmer estimates and determines the values associated with roaming (triggering event) critical at high speed, refer to col. 7 lines 40-57. Palmer, further, , discloses "roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle"(Note: same as when swift motion is detected), col. 6 lines 1-11.). Palmer, further. Teaches quality, measurement of data, S/N ratio, congestion are events or load factors. These are utilized in conjunction with configurable parameters , such as threshold values, refer to col. 5 lines 45-67). Palmer, further discloses "roaming is critical (rather than wait for unsuccessful transmission) when worker is moving swiftly on motorized vehicle", col. 6 lines 1-11. Note: This is same as when swift motion or speed is detected , there will be no waiting or delay to start roaming. Determination for roaming could be made by wireless communication device processor, col. 5 lines 34-67. Detection of speed by processor at a particular incidence` is clearly taught by Palmer. No doubt, these are configurable parameters, refer to col. 5 lines 5 lines 34-67.

Jeyaseelan teaches timer 104 (counter performs as roaming timer associated with events, paragraph 0020) at the expiry of which roaming starts (trigger event). Jeyaseelan, further, teaches triggering roaming, fig. 3, when triggering event occur, such as whenever RSSI is less than threshold and counter value set at particular value, such as, (10 seconds , 2 minutes, 4 minutes or 15 minutes), paragraph 0026-0027) is reached.

**In light of above explanation, all arguments by applicant are responded and are not persuasive.**

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed toINDER P. MEHRA whose telephone number is (571)272-3170. The examiner can normally be reached on Monday through Friday from 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Inder P Mehra/  
Examiner, Art Unit 2617

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